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Dated: June 18, 2007

Signature: 

(Michael Boyd)

Docket No.: 5998-0507PUS4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Louise EDWARDS et al.

Application No.: 10/588,702

Confirmation No.: 2415

Filed: March 13, 2007

Art Unit: 1754

For: ADDITIONAL HETEROPOLYCYCLIC
COMPOUNDS AND THEIR USE AS
METABOTROPIC GLUTAMATE
RECEPTOR ANTAGONISTS

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

In accordance with 37 CFR 1.98(a)(2)(ii), Applicant has not submitted copies of U.S. patents and U.S. patent applications. Applicant submits herewith copies of foreign patents and non-patent literature in accordance with 37 CFR 1.98(a)(2).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Dated: June 18, 2007

Respectfully submitted,

By 

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Attorney for Applicant

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| Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i> | | | | Complete if Known | |
| | | | | Application Number | 10/588,702-Conf. #2415 |
| | | | | Filing Date | March 13, 2007 |
| | | | | First Named Inventor | Louise EDWARDS |
| | | | | Art Unit | 1754 |
| | | | | Examiner Name | Not Yet Assigned |
| Sheet | 1 | of | 3 | Attorney Docket Number | 5998-0507PUS4 |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|--------------------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
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| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|--------------------------|---|-----------------------------------|--|---|----------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
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| NON PATENT LITERATURE DOCUMENTS | | | |
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| Examiner Initials | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| | CA | Aiba <i>et al.</i> , "Reduced Hippocampal Long-term Potentiation and Context-Specific Deficit in Associative Learning in mGluR1 Mutant Mice", Cell vol. 79, page 365- (1994) | |
| | CB | Aiba <i>et al.</i> , "Deficient Cerebellar Long-Term Depression and Impaired Motor Learning in mGluR1 Mutant Mice", Cell vol. 79, page 377- (1994) | |
| | CC | Aramori <i>et al.</i> , "Signal Transduction and Pharmacological Characteristics of a Metabotropic Glutamate Receptor, mGluR1, in Transfected CHO Cells", Neuron vol.8, Page 757- (1992) | |
| | CD | Balazs, <i>et al.</i> , "Metabotropic Glutamate Receptor mGluR5 in Astrocytes: Pharmacological Properties and Agonist Regulation", J. Neurochemistry Vol. 69, page 151-163 (1997). | |
| | CE | Baskys, "Metabotropic receptors and "slow" excitatory actions of glutamate agonists in the hippocampus", Trends in Neuroscience, Vol. 15, page 92- (1992) | |
| | CF | Bashir <i>et al.</i> , "Induction of LTP in the hippocampus needs synaptic activation of glutamate metabotropic receptors", Nature, vol. 363, page 347- (1993) | |
| | CG | Bordi and Ugolini, "Group I Metabotropic Glutamate Receptors: Implications for Brain Diseases", Prog. Neurobiol. Vol. 59, page 55-79 (1999) | |
| | CH | Bordi and Ugolini, "Involvement of mGluR ₅ on acute nociceptive transmission", Brain Res. Vol. 871, page 223-233 (1999) | |
| | CI | Bortolotto <i>et al.</i> , "A molecular switch activated by metabotropic glutamate receptors regulates induction of long-term potentiation", Nature, Vol. 368, page 740- (1994). | |

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| Examiner Signature | | Date Considered | |
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| Sheet | 2 | of | 3 | | |

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|--|----|--|--|
| | CJ | Cunningham <i>et al.</i> , "Excitatory Amino Acid Receptors: A gallery of new targets for Pharmacological Intervention", Life Sci. Vol. 54, page 135-148 (1994) | |
| | CK | Gangloff <i>et al.</i> , "Synthesis of 3,5-disubstituted-1,2,4-oxadiazoles using tetrabutylammonium fluoride as a mild and efficient catalyst", Tetrahedron Lett. Vol. 42, page 1441-1443 (2001). | |
| | CL | Gasparini <i>et al.</i> , "Allosteric modulators of group I metabotropic glutamate receptors: novel subtype-selective ligands and therapeutics perspectives", Curr. Opin. Pharmacol. Vol. 2, page 43-49 (2002) | |
| | CM | Hollman <i>et al.</i> , "Cloned Glutamate Receptors", Ann. Rev. Neurosci. Vol.17, page 31-(1994) | |
| | CN | Holloway <i>et al.</i> , "Lower Esophageal Sphincter Dysfunction in Gastroesophageal Reflux Disease", Gastroenterol. Clin. N. Amer. Vol. 19, page 517-535 (1990) | |
| | CO | Joly <i>et al.</i> , "Molecular, Functional, and Pharmacological characterization of the Metabotropic Glutamate Receptor Type 5 Splice Variants: Comparison with mGluR1", J. Neurosci. Vol. 15, page 3970-3981 (1995). | |
| | CP | Knopf <i>et al.</i> , "Metabotropic Glutamate Receptors: Novel Targets for Drug Development", J. Med. Chem. Vol. 38, page 1417-1426 (1995) | |
| | CQ | Meller <i>et al.</i> , "Acute mechanical hyperalgesia is produced by coactivation of AMPA and Metabotropic glutamate receptors", Neuroreport vol. 4, page 879- (1993) | |
| | CR | Miller <i>et al.</i> , "Growth Factor Upregulation of a Phosphoinositide-Coupled Metabotropic Glutamate Receptor in Cortical Astrocytes", J. Neuroscience vol.15, page 6103-6109 (1995) | |
| | CS | Minakami <i>et al.</i> , "Molecular Cloning and the Functional Expression of Two Isoforms of Human Metabotropic Glutamate Receptor Subtype 5", BBRC vol. 199, page 1136-(1994) | |
| | CT | Mittal <i>et al.</i> , "Transient Lower Esophageal Sphincter Relaxation", Gastroenterology Vol. 109, page 601-610 (1995) | |
| | CU | Miyaura <i>et al.</i> , "The Palladium-catalyzed Cross-Coupling Reaction of Phenylboronic Acid with Haloarenes in the Presence of Bases", Synth. Commun. Vol. 11(7), page 513-520. (1981) | |
| | CV | Nakanishi, "Metabotropic Glutamate Receptors: Synaptic Transmission, Modulation, and Plasticity", Neuron, vol. 13, page 1031- (1994) | |
| | CW | Neugebauer, "Metabotropic glutamate receptors - important modulators of nociception and pain behavior", Pain, Vol. 98, page 1-8 (2002) | |
| | CX | Pin <i>et al.</i> , "Alternative splicing generates metabotropic glutamate receptors inducing different patterns of calcium release in <i>Xenopus</i> oocytes", PNAS vol. 89, page 10331-10335 (1992) | |

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| Sheet | 3 | of | 3 | Attorney Docket Number | 5998-0507PUS4 |

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|--|-----|--|--|
| | CY | Pin <i>et al.</i> , "Review: Neurotransmitter receptors I, The metabotropic Glutamate Receptors: Structure and Functions", Neuropharmacology vol. 34, page 1- (1995) | |
| | CZ | Poulain <i>et al.</i> , "Parallel synthesis of 1,2,4-oxadiazoles from carboxylic acids using an improved, uronium based, activation", Tetrahedron Lett. Vol.42, page 1495-1498 (2001) | |
| | CAA | Schoepp <i>et al.</i> , "Metabotropic glutamate receptors in brain function and pathology", Trends Pharmacol. Sci. Vol. 14, page 13-20 (1993) | |
| | CBB | Schoepp, "Novel Functions for Subtypes of Metabotropic Glutamate Receptors", Neurochem. Int. Vol. 24 page 439-449 (1994) | |
| | CCC | Shine <i>et al.</i> , "A Simplified Procedure for Preparing 3,5-Dissubstituted-1,2,4-Oxadiazoles by Reaction of Amidoximes with Acyl Chlorides in Pyridine Solution", J. Heterocyclic Chem. Vol. 26, page 125-128 (1989) | |
| | CDD | Spooren <i>et al.</i> , "Novel allosteric antagonists shed light on mGlu5 receptors and CNS disorders", Trends Pharmacol. Sci. Vol. 22, page 331-337 (2001) | |
| | CEE | Tanabe <i>et al.</i> , "A Family of Metabotropic Glutamate Receptors", Neuron vol. 8, Page 169- (1992) | |
| | CFF | Van Herwaarden <i>et al.</i> , "Diagnosis of reflux disease", Bailliere's Clin. Gastroenterol. Vol 14, page 759-774 (2000) | |
| | CGG | Watkins <i>et al.</i> , "Phenylglycine derivatives as antagonists of metabotropic glutamate receptors", Trends Pharmacol. Sci. Vol. 15, page 33-36 (1994). | |
| | CHH | DATABASE CROSSFIRE BEILSTEIN "Online" Accession no. 4885431 & ORG.MASS SPECTROM. (1991), 26(11), 1017-1018 XP002264298 | |
| | CII | DATABASE CROSSFIRE BEILSTEIN "Online" Accession no. 4208871 XP002264299 & SYNTH. COMMUN. (1990), 20(12), 1811-1817 | |
| | CJJ | DATABASE CHEMCATS "Online" CHEM. ABSTRACTS SERVICE, COLUMBUS, OHIO, US, US; XP002264300 "Maybridge HTS", 14 May 2003 (2003-05-14), Maybridge PLc, Tintagel, Cornwall, PL34 OHW, UK | |

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